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ABSTRACT

The effectiveness of the Dental Hygiene Education Program in changing the dental health care practices of 4-H club youth in four Louisiana parishes and youth knowledge of dental care principles were studied in this before-after experimental design. The study sample consisted of 258 youth from 10 4-H clubs. Subjects completed a four-item questionnaire prior to a demonstration of the whys and hows of dental care and again completed the same questionnaire 30 days after the demonstration. An analysis of the responses shows that of the four dental practices involved, significant behavior change occurred with regard to only one, type of toothpaste used, although desirable but not significant change occurred with regard to brushing and flossing techniques. It was concluded that dental hygiene demonstrations had limited success in changing the behavior of youth with regard to dental care practices. (HMD)

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A STUDY OF CHANGES IN DENTAL HEALTH CARE BEHAVIOR OF 4-H YOUTH IN SELECTED LOUISIANA PARISHES

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by

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A summary of an M.S. thesis in Extension Education prepared under the supervision of Dr. Satish Verma, Louisiana State University, August, 1973

A copy of the complete thesis is on file in the main library at Louisiana State University.

R & T--Summary 51

Statement of the Problem

One of the educational needs of society today which offers a challenge to teaching agencies, is to have a public which is better informed on personal health care. Physical well-being is basic, for without it, one can hardly carry on the normal activities of life, much less pursue achievement and enjoyment. An area of personal health which is important to everyone is that of dental care. Educating the public and especially young people on preventative dental care so as to extend the life of their teeth to the maximum extent is particularly crucial. Consequently, the Louisiana Cooperative Extension Service undertook an educational program to inform people of the importance of dental hygiene, and how they could practice such hygiene to improve the well-being of their teeth. This study was concerned with evaluating certain aspects of this program which would be helpful in guiding further educational efforts.

Purpose of the Study

The major purpose of the study was to evaluate the effectiveness of the Dental Hygiene Education Program in changing dental health care practices of 4-H youth. Knowledge of dental health concepts was also studied.

Methodology

The theoretical base for the study was built upon selected concepts from learning theory, combined with a before-after experimental design to evaluate the effectiveness of a specific learning experience in bringing about behavior change. The behavior change referred to change in recommended dental health care practices of selected 4-H youth.

The youth included in the study sample and exposed to the educational program were determined by whether or not the 4-H agents in the seven-parish area of the Capital Region chose the program as a part of their curriculum activities. A total of 258 youth in ten 4-H clubs in four parishes participated in the program.

The educational experience which the audience was exposed to consisted of a demonstration on the whys and hows of dental care. A test instrument was given to the children immediately following the demonstration. This measured their knowledge of dental concepts explained in the demonstration. It also measured behavior concerning four important dental practices on the day before the demonstration, which served as the "before" (benchmark) measure of dental behavior. Thirty days later, at another club meeting, a second test instrument was given to the children. This instrument contained the same four questions on dental practice which were asked in the first questionnaire, thus serving as a gauge of behavior "after," or as a result of the demonstration. Information was also obtained on personal characteristics of the youth. The two measures of behavior enabled a before-after comparison, in order to detect changes in dental practices.

Dental health care behavior was the major variable used to analyze the data. Two components of behavior, knowledge and practice were measured, including change which might have occurred in practice. The measurements were applied to the overall sample, and also to groups within the sample according to selected personal characteristics, namely age, sex, place of residence and academic achievement in school.

Knowledge: Sixty percent of the responses to the knowledge questions were correct. The older youth scored higher on knowledge than those under 12 years of age.

Students who made A's answered more correctly than did those who made B's or below. These differences in knowledge were statistically significant.

Changes in Dental Practices: Four dental practices were involved. Only in one practice--type of toothpaste used--was a statistically significant difference observed in the total sample. There was a slight increase in the recommended usage of fluoride toothpaste (3 percent), after the demonstration and a 5 percent decrease in those who were not using any toothpaste.

Changes in the other 3 practices-were not found to be statistically significant as a result of the demonstration, but there was some desirable change as a result of the learning experience. There was a small increase in the proportion of youth who followed recommended brushing habits (2 percent). Larger increases were observed in flossing (7 percent) and other between-the-teeth cleaning methods (10 percent). There was no improvement in between-meals eating habits.

None of the changes in dental practices by the personal characteristics of age, sex, residence and school grades were found to be statistically significant. However, the changes in terms of percentages by the various categories were significant from the standpoint of progress toward the objectives of improved dental hygiene.

Conclusions

1. Before making specific conclusions on the results of this study, it should be pointed out that there has been a general lack of objective measurement and evaluation of the results of the few programs of this nature which have been undertaken. The fact that this particular educational program had a built-in evaluation scheme to detect behavioral change speaks well of its planning and execution.

2. One of the important findings of the study was that the educational program had limited success. An important contributory factor to this was the use of a single exposure to one learning experience, namely, the dental hygiene demonstration. Apparently, this was not adequate for changing established behavior patterns of the nature which concern dental health care practices. The use of just one learning experience is by itself contrary to the established educational principle requiring that a number of learning experiences be employed in appropriate sequence to achieve the desired behavior changes. Thus, a need is recognized for the development of a more comprehensive and intensive educational program in dental health. The implications are that future learning experiences should be more varied, and reinforced by follow-up learning experiences which are distributed over a period of time. It is also felt that more time is needed to teach skills such as brushing adequately. Supervised practice would facilitate a more uniform and effective development of such skills.

3. The data showed that flossing and not eating between meals were not practiced as much as brushing and using flouride toothpaste.

4. No attempt was made to measure how appropriately or effectively the practices of brushing or flossing were carried out. The appropriateness with which one executes these practices has an influence on how beneficial or effective they are. If brushing is practiced but not done properly, it has little effect. Though an evaluation of this nature would be difficult, it would reflect with more accuracy, the benefits derived from the program. Thus, it is suggested that future programs attempt to determine how well the recommended practices are followed. This could perhaps be done in supervised practice sessions.

5. Overall knowledge of dental concepts was fair. Knowledge of some of the more complex concepts such as plaque, calculus, and peridontal disease was less than the more commonly known concepts. Greater emphasis on the former set of concepts is therefore indicated in future educational efforts.

6. It is presumed that the Cooperative Extension Service will, in the future, continue to assume responsibility for dental health education among various audiences. In undertaking this responsibility, it would be useful for the Cooperative Extension Service to collaborate with other educational agencies engaged in this field of activity. This would enable joint planning, prevent duplication of effort and reach audiences more effectively. Coordination might also provide for better use of resources available such as local school boards, local dentists through Dental Associations, educational materials or dental hygiene implements (brushes, floss) through commercial firms. Training of agents in dental health is also important for delivery of correct and consistent information.

7. The help of parents is extremely important, since dental care takes place in the home. The program should not only try and teach parents dental hygiene, but should make clear tc them the importance of encouraging their children to practice dental hygiene. This might be accomplished through meetings with the parents as well as providing educational information to them. Ohter members of the family might also be influenced by asking 4-H members (and their parents) to teach brothers and sisters what they have learned.